Final
Site-Specific Field Sampling Plan
Site-Specific Safety and Health Plan and
Site-Specific Unexploded Ordnance Safety Plan
Attachments
Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range

Fort McClellan
Calhoun County, Alabama

Task Orders CK04 and CK10
Contract No. DACA21-96-D-0018
IT Project Nos. 773191/796887

December 2000

Revision 1

Final
Site-Specific Field Sampling Plan Attachment
Site Investigation at Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range

Fort McClellan
Calhoun County, Alabama

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Executive Summary

In accordance with Contract Number DACA21-96-D-0018, Task Orders CK04 and CK10, IT Corporation (IT) will conduct site investigation (SI) activities at the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, at Fort McClellan (FTMC), Calhoun County, Alabama, to determine the presence or absence of potential site-specific chemicals at these sites. The purpose of this site-specific field sampling plan is to provide technical guidance for sampling activities at the Ranges West of Iron Mountain Road.

The Ranges West of Iron Mountain Road includes the area in the western portion of the Main Post from Summerall Gate Road south to the area west of Yahoo Lake toward Blue Mountain. The east-west limits of the area are from the western boundary of Main Post at the Jacksonville-Anniston Highway east to Iron Mountain Road, north of Yahoo Lake. However, Parcel 232Q-X extends across Iron Mountain Road in the northern section of the study area, and is included in this SI.

Most of the firing lines for the ranges have been identified from the January 1998 Environmental Science and Engineering, Inc. (ESE), *Final Environmental Baseline Survey* or in the U.S. Army Corps of Engineers (USACE) 1999 *Archives Search Report, Maps* along with range safety fans that include probable impact areas. However, because most of the ranges overlap, it is very difficult to separate the impact areas of overlapping ranges. Therefore, the SI for the Ranges West of Iron Mountain Road will focus on individual firing lines, impact areas, and areas of activities where possible contamination may exist rather than investigating each range or parcel as a unit.

Several of the ranges included in this study area have safety fans that exceed the likely impact areas based on the type of munitions reportedly used at each range. However, the SI will focus sample locations in the areas of the probable firing lines and the probable impact areas. Sample locations will not be proposed over the entire safety fans. Because of the number of ranges in this study area and the overlapping of ranges, impact areas will not be linked to specific firing lines in the investigation.

Some of the actual impact areas were determined in the study area for this SI. Information for the location of the actual impact areas was collected from several sources. These sources include the following:

- Presentation to the Base Realignment and Closure Cleanup Team by Foster Wheeler Environmental Corporation, May 17, 2000.
- Unexploded ordnance (UXO) field survey data obtained by EOD Technology, Inc., that identified areas of dense munitions fragments and UXO during UXO surveys to clear the eastern bypass right-of-way.
- Field observations by IT during site walks in July 2000.

Although some of the parcels extend beyond the western Main Post boundary, the investigation will not extend outside of the current FTMC Main Post boundary. The ranges at Parcels 200Q and 228Q and possibly other ranges in this study area have probable impact areas on the east side of Iron Mountain Road and overlap other former ranges located east of Iron Mountain Road. The probable impact areas for Parcels 200Q and 228Q will be investigated with the ranges located east of Iron Mountain Road. Therefore, with the exception of Parcel 232Q-X in the northern part of the study area, the study area for this SI will not extend to the east beyond Iron Mountain Road.

The elevation in this study area ranges from about 790 feet above mean sea level (msl) to 1,270 feet at the top of Iron Mountain in the central-eastern portion of the area. The highest elevation of the study area is a ridge along the western edge of Iron Mountain Road. This ridge, which runs primarily north and south, slopes to the west and northwest and connects Iron Mountain and Wheeler Hill. This ridge appears to have been a backstop to most of the ranges in this study area. The orientation of most of the ranges are northwest to southeast or west to east and appear to use Iron Mountain, Wheeler Hill, and connecting ridges as backstops. However, one range (Parcel 229, Former Rocket Launcher Range) in the study area is oriented northeast to southwest.

Iron Mountain, at 1,270 feet msl, and Wheeler Hill, at about 1,260 feet msl, are the tallest mountains within the central-eastern and southeastern areas of the Ranges West of Iron Mountain Road. Three mountains comprise the southern limit to the Ranges West of Iron Mountain Road including, west to east, Blue Mountain (1,516 feet msl), Reynolds Hill (1,378

feet msl), and Cable Hill (about 1,240 feet msl). Most of the intermittent streams that drain the study area flow to the northwest.

Area 45, Parcel 232Q-X and Adjacent Sites and Ranges. Area 45, Parcel 232Q-X is in the northern portion of the study area. Area 45 extends from the western boundary of the Main Post across Iron Mountain Road and to just west of 13th Avenue. Area 45 is oriented east to west and includes areas just south of Summerall Gate Road, north of Iron Mountain, east of the western Main Post boundary, and west of Motor Pool Area 3100 located on 13th Avenue. The study area for Area 45 west of Iron Mountain Road is mostly along the north slope of Sunset Hill. Drainage of this area is primarily to the north through intermittent tributaries connecting to Remount Creek, which flows north along the east side of Iron Mountain Road.

Several former ranges and other sites are located within Area 45, but are excluded from this study area because they are being investigated under separate work plans. The following sites and ranges within Area 45 are excluded from this study area:

- Area M2, Subsection of Area 45
- Parcel 69Q, The Skeet Range
- Parcel 75Q, Range 19, Qualification Pistol Range
- Parcel 122(7), Former Fog Oil Storage Area
- Parcel 221Q-X, Former Rifle Grenade Range North of Washington Ranges
- Parcel 233(7), Fill Area West of Range 19.

The sites and ranges within or bordered by Area 45, Parcel 232Q-X that will be investigated include the following:

- Parcel 181(7), Training Area T-4: Former Biological Simulant Test Area
- Parcel 194(7), Former Weapons Demonstration Area
- Parcel 518(7), South Gate Toxic Gas Yard
- Parcel 73Q-X, Range 17, Explosives Proficiency Training Area
- Parcel 228Q, Former Machine Gun Transition Range
- Parcel 229Q-X, Former Rocket Launcher Range.

The South Gate Toxic Gas Yard, Parcel 518(7), is referenced (by text only) on the 1956 map of Chemical Corps Training Areas. The exact location is unknown, but was probably near or within the Former Chemical Weapons Demonstration Area, Parcel 194(7).

Ranges South of the Area 45 Ranges. There are 12 ranges south of the Area 45 ranges, west of Iron Mountain Road, including:

- Parcel 91Q-X, Dud Impact Area
- Parcel 114Q-X, Former Large Caliber Weapons Range
- Parcel 115Q, Former Small Arms Range
- Parcel 116Q-X, 60mm Mortar Range
- Parcel 117Q-X, Main Post Impact Area
- Parcel 129Q-X, Former Mock Vietnam Village
- Parcel 151Q, Former Rifle Range
- Parcel 200Q, Former Rifle Range
- Parcel 201Q, Former Rifle Range
- Parcel 231Q, Former Range O.Q.-2A
- Washington Tank Range
- 1950 Rocket Launcher Range.

The area south of Iron Mountain and west of Ranges 12 and 13, as shown on Plate 10 of the 1999 USACE *Archives Search Report*, contains two ranges that are not matched to the ranges listed as parcels in the environmental baseline survey; Washington Tank Range and 1950 Rocket Launcher Range. There is insufficient detail on Figure 10 of the USACE 1999 *Archive Search Report, Maps* to match the two range locations well with environmental baseline survey range parcels. These ranges overlap with other ranges and are orientated toward the east.

As part of the SI, IT will collect 101 surface soil samples, 101 subsurface soil samples, 76 groundwater samples, 22 surface water samples, and 22 sediment samples at these sites. Potential contaminant sources at the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range are primarily unknown, but may include lead, nitroexplosives, tear gas, flares, napalm, white phosphorus, molasses residue, field flame expedient, supertropical bleach, Decontamination Solution Number 2, and practice smoke grenades. The samples collected for Parcels 181(7) and 194(7) will be analyzed for volatile organic compounds, semivolatile organic compounds, nitroexplosives, metals, and perchlorate. Samples collected at the remaining ranges will be analyzed for metals, nitroexplosives, and perchlorate. All groundwater samples will be analyzed for volatile organic compounds. In addition, sediment samples will be analyzed for total organic carbon and grain size. Results from these analyses will be compared to site-specific screening levels and ecological screening values presented in the IT 2000 *Final Human Health and*

Ecological Screening Values and PAH Background Summary Report, and regulatory agency guidelines.

Several of the Ranges West of Iron Mountain Road fall within the "Possible Explosive Ordnance Impact Areas" shown on Plate 10 of the USACE 1999 *Archives Search Report, Maps*; therefore, UXO surface sweeps and downhole surveys of soil borings will be required to support field activities at the Ranges West of Iron Mountain Road. The surface sweeps and downhole surveys will be conducted to identify anomalies for the purpose of UXO avoidance.

This site-specific field sampling plan attachment to the installation-wide sampling and analysis plan (SAP) for the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range will be used in conjunction with the site-specific safety and health plan (SSHP), the site-specific UXO safety plan, the installation-wide work plan, and the SAP. The SAP includes the installation-wide SHP, waste management plan, ordnance and explosives management plan, and quality assurance plan. Site-specific hazard analyses are included in the SSHP and site-specific UXO safety plan.

1.0 Project Description

1.1 Introduction

The U.S. Army is conducting studies of the environmental impact of suspected contaminants at Fort McClellan (FTMC) in Calhoun County, Alabama, under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE has contracted IT Corporation (IT) to provide environmental services for the site investigation (SI) of the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range, under Task Orders CK04 and CK10, Contract Number DACA21-96-D-0018.

This site-specific field sampling plan (SFSP) attachment to the installation-wide sampling and analysis plan (SAP) (IT, 2000) for FTMC has been prepared to provide technical guidance for sample collection and analysis at the Ranges West of Iron Mountain Road, Parcels 181(7), 194(7), 518(7), 73Q-X, 91Q-X, 114Q-X, 115Q, 116Q-X, 117Q-X, 129Q-X, 151Q, 200Q, 201Q, 228Q, 229Q-X, 231Q, 232Q-X, Washington Tank Range, and 1950 Rocket Launcher Range. This SFSP will be used in conjunction with the site-specific safety and health plan (SSHP) and the site-specific unexploded ordnance (UXO) safety plan developed for the Ranges West of Iron Mountain Road and the installation-wide work plan (WP) (IT, 1998) and SAP. The SAP includes the installation-wide safety and health plan (SHP), waste management plan, ordnance and explosives management plan, and quality assurance plan (QAP). Site-specific hazard analyses are included in the SSHP and the site-specific UXO safety plan attachments.

1.2 Site Description

The Ranges West of Iron Mountain Road that comprise this study area include the following sites and ranges (Figures 1-1 and 1-2):

- Parcel 181(7), Training Area T-4: Former Biological Simulant Test Area
- Parcel 194(7), Former Weapons Demonstration Area
- Parcel 518(7), South Gate Toxic Gas Yard
- Parcel 73Q-X, Range 17, Explosives Proficiency Training Area
- Parcel 91Q-X, Dud Impact Area
- Parcel 114Q-X, Former Large Caliber Weapons Range
- Parcel 115Q, Former Small Arms Range
- Parcel 116Q-X, 60mm Mortar Range
- Parcel 117Q-X, Main Post Impact Area